

Predicts Bright Future for the Motor Drawn Commercial Wagon

Coker F. Clarkson Declares That Within a Few Years a Half Million of Motor Trucks Will Be Placed on the American Market.

By Coker F. Clarkson, General Manager Society of Automobile Engineers.

A half million motor cars of the pleasure type have been put on the American market in the last handful of years. Within an equal space of time there will be in use an equal number of commercial automobiles. The pleasure car, having fully justified itself, simply paved the way for the manufacture of self-propelled vehicles designed to take the place of the plodding truck horse. The demand for power wagons capable of doing greater work at less expense than possible with horse drawn vehicles, is now on the verge of being satisfied generally, and has in a number of notable instances been satisfied for several years. The prophecy of past generations is being fulfilled. Skill and dexterity have brought adaptability of heavy motor vehicles with respect to the roads they travel. Numerous investigators have learned by their failures what will not do, and also an adequate means of accomplishing the desired results.

The stock of knowledge contributed by different persons is combined to produce an efficient result. Improvement in the design of component parts has made this possible—improvement in wheels, tire equipment, springs and the rest. As in the case of other great economic innovations, this has taken the study of a great many persons for a considerable length of time.

The day of heavy motor truck service is present. In this field the horse is evanescent. His final going is delayed only by first, the scientific consummation of technical details, and second, by the use of rational sales systems of mechanical knowledge in connection with the tremulous and variegated traffic of the road.

Of course, there are limitations. Generally speaking, economic use of motor trucks necessitates enough work of a suitable kind for each vehicle to do, and the nature of the road to be travelled is a big factor. Speed in delivery of goods is in a large sense a measure of civilization.

Better Than Trains.
It is reasonably safe to say that a railway freight car, as normally used, runs only about thirty miles a day. Its greatest use, as a rule, made up of waiting to let the passenger train go by and to connect at some way station for a train that shall carry it along. Then it must return unloaded to the point of distribution and prepare to begin again on its tortuous way. It is this system that goes far to account for our congested railroad traffic. The remedy is to use the motor truck for carrying merchandise to the points. To do so would not only enable the railroad, from relieved congestion, to double its throughput, but would deliver the merchandise as safely as if carried over steel rails and quite as cheaply, due to the obvious lack of delay in the use of the motor truck there is also to be observed the advantage of loading and unloading under the supervision of the same driver.

The average haul of wheat to shipping points is 3.5 miles; the average weight, 23 pounds. The cost of this haulage to the farmer is \$2.86 per load; cost per mile, 19 cents. The average haul for corn is 1.8 miles; the average load, 1,073 pounds; \$2.75 per load, 27 cents per ton mile. Where any considerable distance is to be covered the cost of horse haulage is very high and increases with the mileage. A motor truck, on the other hand, means decreased expense per mile as the miles pile up. Aside from its ability to reduce hauling expense it fully justifies itself in rendering less complex the distribution of farm products. A collateral advantage, of course, follows in the necessity of keeping up the public roads, a question than which there is none more important to the welfare of rural localities.

Convenient for Farmers.
For many years it has been the custom of farmers to hire threshing machines as necessary required. At no distant date no up to date farm will be complete without its own handy tractor. Such a machine can be used for so many purposes that there is no fear of having idle capital invested much of the time.

Although merchandise carrying motor vehicles had been tried out previously, the first self-propelled truck of the general appearance of the present day was put into operation in 1888. In 1896 twelve trucks and omnibuses were ready on order from commercial houses for delivery at one time from a German factory.

About ten years ago trucks were produced for the German army equipped with 16-horse power motors under the hood. In 1898 a German motor omnibus was delivered in London. It had a three ton capacity chassis, fitted with a motor of approximately 16 horse power. It ran from a point near Gravesend to London, about thirty miles, on six gallons of gasoline, at a speed of ten to twelve miles an hour.

In Europe motor trucks have for years been applied to meet the requirements of fire departments, the army and important industries. Tractors and trailers, road trains, &c., are doing extensive service. The motor truck of to-day is available to the merchant, the manufacturer and to transportation interests, and can be expected to perform efficiently and with as great, if not greater, reliability than horse drawn equipment. The best of the original European trucks and omnibuses are still

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In operation to-day. With the present improved design greater flexibility, efficiency and longer life can be counted upon.

If a truck will last ten years, which has been demonstrated as the case with some trucks, it is not hard to figure the annual depreciation.

Relative Cost.
Given sufficient work under suitable conditions, a motor truck can be operated at a total cost, including all fixed charges, of less than the cost of horse drawn service. The total investment in motor trucks is generally approximately equal to the horse drawn equipment investment to perform the same work. A five or seven ton truck which will carry its load ten miles an hour one hundred miles a day, certainly involves less investment than a horse drawn equivalent and can be operated at less cost, all charges considered.

In selecting a type of truck first cost, depreciation, tire upkeep and fuel economy should be considered. Interesting examples of motor lines in Europe are those in Bavaria, where more than one hundred and fifty motor "buses" ply like network over the Bavarian highlands and Pfalz and Frankish plains. In 1909 there were twenty-nine lines in operation, of which twenty-one were permanent, operating summer and winter. These lines have been financially successful as a result of low repair, fuel and rubber expense. As a result of regularity of service the volume of business has increased.

Here is a concrete illustration of what the motor truck is actually doing—A five ton motor truck made twenty-four trips from New York to Newark, N. J., during April, 1911. It carried an average of a little more than five and a half tons per load. An average of three trips a day was maintained, the usual running time being two hours and ten minutes. The distance was twenty-three miles.

Standardizing the Truck.
For more than a year the Society of Automobile Engineers has had under advisement the matter of standardizing motor truck elements generally, but has been proceeding slowly from the nature of the case as well as on account of the vast volume of other standardization work on hand.

A truck standards division of the Standards Committee has been created by the society Council. This division is constituted as follows:

W. P. Kennedy, consulting engineer, chairman; A. H. Eble, Baldwin Locomotive Works; H. P. Donaldson, member S. A. E. Council; Bruce Ford, Electric Storage Battery Company; W. A. Frederick, Continental Motor Manufacturing Company; P. H. Breed, Alden Sampson Manufacturing Company; E. F. Russell, Locomobile Company of America; Charles B. Whitteley, Hartford Rubber Works Company; Charles L. Schwarz, wheel manufacturer; E. R. Whitney, Commercial Truck Company of America; F. W. Trubold, J. H. Williams & Co. and J. M. Mack, International Motor Car Company.

This committee will have the benefit of a number of other S. A. E. members acting in an advisory capacity, and has been formed to take up the study of motor trucks and formulate standards to be used in their construction, particularly in relation to their load capacity. They will have an extremely important bearing on the merchandising side of the truck business, as it will regulate the class in which trucks must be sold, and will prevent many of the growing abuses in misrepresentation of capacity, which if unchecked will prove a serious impediment to the progress which may be justly expected in revolutionizing present city merchandise transportation methods.

Truck standardization is interwoven with the work of many of the other divisions of the S. A. E. Standards Committee. It is,

however, the peculiar function of the truck standards division to direct general standardization in so far as it relates to trucks. A fearless critic of current affairs has recently said that the best inventive and mechanical brains in the country, both inside and outside of the automobile industry, are affiliated in some form of membership with the Society of Automobile Engineers. This indicates the nature of the past and future standardization work of the society in the motor truck field, because there are many checks applied to it. All reports of divisions or sub-committees must be approved by the whole standards committee. No recommendation of the standards committee can be submitted for the acceptance of the society without the consent of the society council.

Status of the Industry.

The motor car industry can be viewed as representing in the last few years a great development in organization for production and in the universal practice by American makers of adhering to the principle of interchangeability of parts. There has been an increase in efficiency of production; at the same time the engineer has improved design for strength and durability to an amazing extent. It might be said that the engineer in the last few years has been devising and improving methods of production and the character of quantity output, whereas theretofore, with a few notable exceptions, his work was largely that of designing or making models and trying to make them run.

It is but a short time ago that it was not thought possible to make a self-propelled vehicle for use on the ordinary highway that could be kept going for practical purposes without a prohibitive maintenance bill. The early automobile builders were not only annoyed almost beyond endurance by weaknesses displayed in the various parts of the machine, but the problem became so serious that for a time the success or failure of the entire business seemed to hinge upon the possibility of obtaining the materials which would stand the extraordinary stresses imposed by this new means of locomotion. But to-day the automobile stands transformed from what was little more than an untried embryo into a machine of efficient, safe and almost revolutionary in some of its economic aspects. It is a high tribute to the scientist, the metallurgist, the engineer and the designer that this mechanism has been created and perfected with so great qualities of power, endurance, reliability and speed, and with attention so simple that it can be operated with ease by one not skilled in mechanics.

Members of Society.

The great majority of these experts in this country are members of the Society of Automobile Engineers, which has come to its maturity fully, perhaps uniquely, equipped to solve and work out the many remaining problems in the scientific aspect of the motor car industry.

STEVENS-DURYEA IN HOTEL

A new convertible body which the Stevens-Duryea Company is showing in the lobby of the Hotel Marlborough has a number of distinctive features that make it quite a different proposition from the one or two other convertibles that have been seen.

The lines of the Stevens-Duryea convertible are specially graceful, curving at the dash and over the hood in a way that gives the appearance of easy comfort and dependability. There are seats for five passengers, with generous space and wide doors in the tonneau. The window sashes in the door fold down flat against the inside panel, instead of slipping into it, and are held in position there and protected by a leather flap. The other windows are removable, an ingeniously designed case holding them being added to the back of the inside seat. There is also a compact case for the non-shrinkable gray cloth top and back curtain, the supports for which fold down so flat that when used as an open car the convertible has the smooth, perfect lines of the Stevens-Duryea touring car, with no indication of its double equipment.

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For a good many years the Garford Company have been solving difficult transportation problems among all classes of important American concerns. This vast and varied experience has built the Garford Truck—the most practical truck in America. To any concern, who has merchandise to be handled, we can give some valuable information, by demonstrating the most economical system of delivery operations. It will be worth your while to investigate.

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This company is in business to furnish mechanical transportation equipment. There is a field for the electric truck and a field for the gasoline truck. Very frequently the need for both exists in the same business.

The manufacturer of both electric and gasoline trucks is the only one capable of rendering impartial advice to the prospective purchaser.

Every business with a delivery or haulage problem must come sooner or later to motor trucks. The

important thing is the selection to fit individual needs. A wise selection of a truck cannot be made without due consideration of the company producing it.

No transaction between manufacturer and purchaser can end with the sale of the truck—to the satisfaction of the purchaser.

After the sale must come service. The right kind of service implies solidity—permanence and large resources of the manufacturer.

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